

Appendix G



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Prescribed burning

Fire Management Program Guidance

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Introduction

The mission of the National Wildlife Refuge System is “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans” as stated in the National Wildlife Refuge Improvement Act (October 9, 1997). The U.S. Fish and Wildlife Service’s (Service) Northeast Regional Fire Program (Fire Program) helps support this mission by creating and managing important wildlife habitat with prescribed fire and protecting human safety by reducing the risk of wildfire and through fire suppression. This document provides an outline of the Fire Program’s guidance on fire management, explains the fire management planning process, and describes the fire management program at Great Bay National Wildlife Refuge (Great Bay Refuge, the refuge). This guidance is a review that serves as a precursor updating the refuge’s current Fire Management Plan (FMP).

The Role of Fire

Historically, natural fire and ignitions by Native American people has played an important disturbance role in many ecosystems by

- removing fuel accumulations;
- decreasing the impacts of insects and diseases;
- stimulating regeneration of vegetation;
- cycling nutrients; and
- providing a diversity of habitats for plants and wildlife.

The role of fire has been greatly modified in the heavily developed areas of the Northeast U.S. However, when fire is used properly it can

- reduce hazardous fuels build-up in both the wildland-urban interface¹ and other areas;
- improve wildlife habitats by reducing the density of vegetation, and/or changing plant species composition;
- sustain and increase biodiversity;
- improve woodlands and shrublands by reducing plant density;
- reduce the susceptibility of plants to insect and disease outbreaks; and
- assist in the control of invasive and noxious species.

Wildland Fire and Management Policy and Guidance

In 2001, the Secretaries of the Interior and Agriculture approved an update to the 1995 “Federal Fire Policy.” The 2001 “Federal Wildland Fire Management Policy” directs Federal agencies to achieve a balance between using fire suppression to protect life, property, and resources, and using wildland fire to regulate fuels and maintain healthy ecosystems. It also directs agencies to provide a management response to all wildfires that is commensurate with the values at risk, human safety, and the costs for suppression.

This policy provides nine guiding principles that are fundamental to the success of the fire management program. These guiding principles are as follows:

1. Firefighter and public safety is the first priority in every fire management activity.
2. The role of wildland fire as an essential ecological process and natural change agent will be incorporated into all land management planning processes.
3. Fire management plans, programs, and activities support land and resource management plans and their implementation.

¹ The wildland-urban interface is the line, area, or zone where human development and structures meet with undeveloped wildland or vegetative fuels.

4. Sound risk management is a foundation for all fire management activities.
5. Fire management programs and activities are economically viable, based upon values to be protected, costs, and land and resource management objectives.
6. Fire management plans and activities are based upon the best available science.
7. Fire management plans and activities incorporate public health and environmental quality considerations.
8. Federal, State, Tribal, local, interagency, and international coordination and cooperation are essential.
9. Standardization of policies and procedures among Federal agencies is an ongoing objective.

The following provide further direction on fire management decisions:

- Every fire requires a response and decision on how to respond to it.
- The Service's initial reaction to human caused fires will be to suppress the fire while providing for firefighter and public safety, limiting damage and loss, and minimizing costs of the fire.
- The interagency nature of fire management work requires the involvement and participation of cooperators, including both State and local agencies, in planning for, and potentially responding to, wildland fire.

Fire Management Planning

A FMP is required for every national wildlife refuge that has burnable acres. A FMP defines the refuge's fire management direction based on the objectives outlined in the refuge's Comprehensive Conservation Plan (CCP) and Habitat Management Plan (HMP). It provides a detailed description of how the refuge will

- respond to wildland fires;
- manage fuels to reduce the risk of wildland fires; and
- use prescribed burning to meet management objectives, if applicable.

In order for a refuge to use wildlife fire, prescribed burning, and other hazardous fuel reduction techniques, these methods must be specified and pre-approved as appropriate management responses in the refuge's FMP. If none of these methods are described in the FMP, the refuge's only allowed response to wildland fire is aggressive suppression.

Fire Management Program at Great Bay National Wildlife Refuge

Management Direction

Great Bay Refuge was established in 1992 when land from the former Pease Air Force Base was transferred to the Service. The refuge currently encompasses 1,103 acres in Newington, New Hampshire with a diversity of habitat types including oak-hickory forest, grasslands, shrub thickets, fresh and saltwater wetlands, and open water habitats. The refuge also includes a 29-acre conservation easement in the pine barrens of Concord, New Hampshire that is managed primarily for the federally endangered Karner blue butterflies. The refuge's purposes are the following:

- To encourage the natural diversity of plant, fish, and wildlife species within the refuge, and to provide for their conservation and management

- To protect species listed as endangered or threatened or identified as candidates pursuant to the Endangered Species Act of 1973
- To preserve and enhance the water quality of aquatic habitat within the refuge
- To fulfill the international treaty obligations of the U.S. relating to fish and wildlife

Since the refuge's establishment, there have been no wildfires on the refuge. Prescribed fire is currently used as a management tool, particularly on refuge grasslands and shrublands and on the Karner blue butterfly easement. In the future, the refuge may use prescribed fire as a management tool to promote and accomplish the following five goals, as defined in the refuge's CCP.

1. Perpetuate the biological integrity, diversity, and environmental health of estuarine and freshwater habitats to protect water quality and sustain native plant communities and wildlife, including species of conservation concern.
2. Perpetuate the biological integrity, diversity, and environmental health of upland and forested wetland habitats to sustain native plant communities and wildlife, including species of conservation concern.
3. Foster and maintain conservation, research, and management partnerships to promote protection and stewardship of the ecological resources of the Great Bay Estuary.
4. Promote enjoyment and awareness of the Great Bay Refuge and estuarine system by providing high-quality, compatible, wildlife-dependent public uses on refuge lands and on partner lands and waters around Great Bay.
5. Contribute to the recovery of the federally endangered Karner blue butterfly and other rare Lepidoptera through the conservation, protection, and restoration of the pine barrens habitat.

All aspects of the fire management program will be conducted in a manner consistent with applicable laws, policies, and regulations. Great Bay Refuge will maintain a FMP to accomplish the fire management goals that follow (see "Fire Management Objectives" below). Any future prescribed fire, chemical, manual, and mechanical fuel treatments will be applied in a scientific way, under selected weather and environmental conditions.

Fire Management Program Implementation

The objectives and strategies of the National Wildlife Refuge System Wildland Fire Management Program Strategic Plan are consistent with Department of the Interior and the U.S. Forest Service policies, National Fire Plan direction, the President's Healthy Forest Initiative, the 10-year Comprehensive Strategy and Implementation Plan, National Wildfire Coordinating Group Guidelines, initiatives of the Wildland Fire Leadership Council, and Interagency Standards for Fire and Aviation Operations.

The fire management program guiding principles for Great Bay Refuge are to

- protect Service lands and wildlife from wildfire; and
- use prescribed fire to meet the habitat goals and objectives identified in the refuge's CCP.

Fire Management Objectives

The purpose of the fire management program at Great Bay Refuge would be to use chemical, manual, and mechanical fuel treatments to ensure public and firefighter safety, while protecting property and natural resource values from wildfire. The objectives of Great Bay Refuge's fire management program include the following:

- Ensure public and firefighter safety while protecting property and natural resource values from wildfire.
- Reduce the wildfire impacts to all resource management activities.
- Protect adjacent landowners from wildfire and prescribed burn impacts.
- Reduce the threats associated with accumulations of hazardous fuel loads to refuge shrublands and grasslands.
- Provide, enhance, and protect habitats for State and Federal endangered and threatened species and species of special concern.
- Provide, maintain, enhance, and protect feeding, resting, nesting, and brood habitat that meet the requirements of migratory waterfowl, other migratory birds, and resident wildlife.
- Facilitate the control of invasive and exotic species.
- Increase habitat diversity in refuge upland habitats.
- Demonstrate and educate the public about the role and benefits of wildfire protection and prescribed fire use in resource management.
- Maintain current ecosystem diversity within the landscape context.
- Comply with state Air Quality Implementation Plans and regulations to protect public health and the environment.

Fire Management Strategies

The refuge will use fire management strategies and tactics that consider public and firefighter safety, as well as the resource values at risk. The FMP will provide a more detailed description of the wildfire suppression, prescribed fire, chemical, manual, and mechanical treatment methods the refuge plans to use. The FMP will also explain the timing and monitoring of the refuge's fire management strategies. The refuge will develop prescribed fire burn plans for specific sites, following the interagency Prescribed Fire Planning and Implementation Procedures Reference Guide (2009) template.

Some fire management strategies techniques, such as prescribed burning, may impact air quality. Prescribed fire temporarily reduces air quality by diminishing visibility and releasing particulates and pollutants through combustion. However, the refuge will meet the Clean Air Act emission standards by adhering to the New Hampshire air quality requirements during all prescribed fire activities.

Fire Management Organization, Contracts, and Cooperation

The Service's Northeast Regional Fire Program is divided into four fire management zones which provide technical fire management oversight to refuges. Great Bay Refuge is currently within the New England fire management zone, which includes all the national wildlife refuges in New Hampshire. All fire management activities are conducted in a coordinated and collaborative manner with the refuge, the Zone Fire Management Officer located at Rhode Island National Wildlife Refuge Complex, and other Federal and non-Federal partners. The fire management zone has also developed a close working relationship with the New Hampshire Fish and Game Department and The Nature Conservancy.

A new FMP will be developed for the refuge in 2012.